Anton Pålsson Abrahamsson
ME003A - Advanced Visualisation Methods
Assignment 2 - Sonification

Report, Assingment 2 – Sonification
Anton Pålsson Abrahamsson:
Using sonification to determine Corruption, Income and Civil Liberties in Brazil.

A visulisation is a way of making it easy for people to comprehend data through visual means, such as charts or plots, which is useful because people tend to think in terms of visuals (Ware 2020, pp 1-4). A sonification is a type of visualisation that turns data into sounds instead of visuals (Hermann, Hunt and Neuhoff 2011, pp 9-10). This assignment was about creating our own sonifications using the toolkit provided to us in the modules, along with three different datasets. I produced three sonifications on three different aspects, Corruption, Income and Civil liberties. These types of data may indeed interest many people as they regard

All of the sonifications I have prepared for this assignment use Brazil as an example by default but you may add another country for comparison, as they are included within the data files. All three of these sonifications have been limited to the years 2012 through 2017. The reason for this is that I hoped to display a possible correlation between them and the data on corruption was limited to 2012 through 2017, though as this report will state several times, this five year time period is not sufficient to draw any clear conclusions from and is ultimately just a demonstration of the concept of sonification. The reason I chose Brazil as the default is because these types of problems might be seen as erratic in Brazil (Geddes and Neto 1992).

While the datasets may be small due to the lack of data one of them provided by default, the actual sonifications of Brazil in particular that I have created still display a clear change over time even if this small dataset cannot be considered acceptable to draw conclusions from. While the time period is short, we can still determine an increase in corruption, a fluctation in income per person and increase in civil liberties. Please note that a five year period provides an insufficient amount of data in order to draw any conclusion or determine any strong relationships (Aggarwal and Ranganathan 2016), it was only limited to this five year period purely due to the lack of data on corruption, not because of any practical reason. If we were to draw any conclusion from this data, it would imply that an increase in civil liberties implies an increase in corruption, which does not appear to be likely given the usual correlation being negative (Lambsdorff 2003). Because of this I feel obligated to note that these sonifications cannot be seen as a demonstration of correlation, merely a demonstration of sonification as a concept, which is to communicate data through audio rather than visuals (Barrass and Kramer 1999). While it is true that some smaller data sets may indeed be used for serious research (Martens and Dardenne 1998), such datasets are still larger than what is being used here and should not be regarded as equal in terms of validity. The data may be limited and had the data on corruption been more extensive, I would have been more pleased with the results.

I have not made a single sonification which combines the data despite the direct comparisons that can be made between them, the reason for this is because it may require me to make more source code alterations than I am able to confidently make within the short time span we were given. While such changes could be accomplished, I do not feel confident enough with my own abilities to make the necessary modifications within the time limit given. I have chosen footsteps as the default sound for these sonifications because they may be seen as representative of progress, as footsteps are the

way people move forward in a literal sense. Symbolism in visualisation may be important for the audience to understand the purpose of the visualsation and the correct language may set the right mood (Kidron and Tall 2014), and footsteps may indeed accomplish the desired effect. The frequency of the footsteps in each sonification either increases or decreases depending on whether there is a rise or a fall in data, which alerts the listener to how it is progressing, a key component in sonification (Hermann, Hunt and Neuhoff 2011, pp 12-14).

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